

## C L A I M S

What is claimed is:

1. A method of making a circuitized substrate, said method comprising:
  - providing a dielectric polymer layer;
  - forming an adhesion promotion layer on said dielectric polymer layer using a polymer; and thereafter
  - plating a layer of conductive material on said adhesion promotion layer to form a circuit element.
2. The method of claim 1 wherein said dielectric polymer layer is Teflon.
3. The method of claim 1 wherein said forming said adhesion promotion layer on said dielectric polymer layer comprises exposing said dielectric polymer layer to a solution of conductive monomer.
4. The method of claim 3 wherein said conductive monomer in said solution is selected from the group of monomers consisting of pyrrole monomer, aniline monomer, thiophene monomer and combinations thereof.
5. The method of claim 4 wherein said solution further comprises a seed material.
6. The method of claim 5 wherein said seed material is palladium-tin, said monomer comprising from about 0.001 to about 0.100 percent of said solution.
7. The method of claim 6 wherein said monomer comprises about 0.05 percent of said solution.

8. The method of claim 5 wherein said solution further includes an oxidant.
9. The method of claim 8 wherein said oxidant is selected from the group consisting of sodium persulfate, ferric chloride, cupric chloride, permanganate salt and compositions thereof.
10. The method of claim 1 wherein said plating of said layer of conductive material is electroless plating.
11. The method of claim 10 wherein said conductive material is copper.
12. The method of claim 1 further comprising making at least one additional circuitized substrate using the steps of claim 1 and thereafter bonding said at least one additional circuitized substrate to said circuitized substrate.
13. The invention of claim 1 wherein said method is performed without a sputtering operation.
14. The method of claim 1 wherein said circuit element formed by said plating is a circuit line having a thickness of only about 0.001 inch.
15. A circuitized substrate comprising:
  - a dielectric polymer layer;
  - an adhesion promotion layer on said dielectric polymer layer including a conductive polymer; and
  - a plated layer of conductive material on said adhesion promotion layer, said plated layer being a circuit element.

16. The circuitized substrate of claim 15 wherein said dielectric polymer layer is comprised of Teflon.
17. The circuitized substrate of claim 1 wherein said polymer is electrically conductive and is formed from a solution monomers selected from the group of monomers consisting of pyrrole monomer, aniline monomer, thiophene monomer and combinations thereof.
18. The circuitized substrate of claim 15 wherein said conductive material is copper.